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ABSTRACT

This document, which is designed for individuals developing local career and technology education (CTE) program proposals and/or designing new CTE facilities in Maryland, presents the CTE program specifications that were developed to ensure the quality of CTE programs in public schools in Maryland. The document is divided into four sections. The first section discusses general program specifications pertaining to the following aspects of CTE: advisory councils and program committees; administration; staff; facilities and equipment; student recruitment and enrollment; career development systems; and instruction (program offerings, competency/performance-based instruction, program completion, community resources, safety, leadership development and student organizations, work-based learning, provision of experience in all aspects of the industry, tech prep, blended instruction/integrated instruction, and evaluation). The second section explains each of the following elements of specific program specifications: program title, program Classification of Instructional Programs code, program description, learner outcomes/competencies, facilities, job titles addressed by the program, labor market demand, sequences of courses matrix, and instructional program data sheet. Section 3 presents directions for completing program proposal packets, and section 4 contains a sample program proposal. Appended are instructions for using the Maryland State Department of Education report template for WordPerfect for Windows, version 6.0/6.0a only. (MN)

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ED 386 599

Specifications for Developing Secondary Program Proposals

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Division of Career Technology and Adult Learning
Maryland State Department of Education
1995

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Specifications for Developing Secondary Program Proposals

Division of Career Technology and Adult Learning
Maryland State Department of Education
1995

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INTRODUCTION TO CAREER AND TECHNOLOGY EDUCATION PROGRAM SPECIFICATIONS

The career and technology education (CTE) program specifications were developed for use in insuring the quality of CTE programs in public schools in Maryland. The specifications are descriptive statements developed by a variety of professionals and validated by a wide range of educators and representatives from business and industry throughout the State. They provide a series of reference points for use in describing the characteristics of quality CTE programs. Due to the rapid changes that are taking place in occupations and technology, these specifications will be revised regularly.

These statewide specifications are to be used when developing local program proposals and designing new facilities. There are general specifications that apply to all programs, and program specifications that apply to specific program areas. The process of developing and submitting program proposals has been designed to be flexible and user friendly. Necessary deviations that result from local conditions and constraints are possible. Once approved, local proposals provide the basis for program operation, evaluation, and school improvement initiatives.

GENERAL PROGRAM SPECIFICATIONS

I. ADVISORY COUNCIL AND PROGRAM COMMITTEE

A. Local Advisory Council

1. General. An advisory council on career and technology education (CTE) exists as required by Title 21, Section 21-107 of the Education Article, of the Annotated Code of Public General Laws of Maryland.

2. Composition. The members of the council are from the general public and representatives of agriculture, business, industry, homemakers, and organized labor. The council should have representation from each sex, racial and ethnic groups, and geographic regions of the school system.

3. Responsibilities. The council advises the public schools of designated career and technology education programs regarding the distribution of CTE funds, CTE program accountability reports, local job needs, and the adequacy of career and technology programs being offered.

4. Meetings. The advisory council meets regularly.

5. Minutes. Minutes of each meeting are prepared and distributed to committee members and local career and technology administrators.

B. Program Committees

1. General. A program committee exists for serving each program or cluster of closely related programs operated within the school system. A separate committee is not required in each school.

2. Composition. The members of the committee are from the general public and representatives of the various segments of the occupational community served by the program.

3. Responsibilities. The program committee advises on the relevance of instruction, the competencies to be taught, the adequacy of materials and equipment, job placement, and other matters related to the development and maintenance of a quality program.

4. Meetings. The program committee meets formally on an as needed basis.

5. Minutes. Minutes of each meeting are prepared and distributed to committee members, appropriate teachers, and administrators.

II. ADMINISTRATION

A. School administrators are responsible for the following areas as they relate to career and technology education.

1. Reports. Assure that all reports concerning the operation of career and technology education programs are submitted accurately and on time. These involve student/teacher data, student placement data, student follow-up data, Maryland School Performance Plan (MSPP), tech prep, material and equipment requisitions, and other special data requirements.

2. Master Schedule. Construct a master schedule that will support a coherent sequence of courses for each CTE program.

3. Monitoring and Supervision. Provide adequate monitoring and supervising of programs through use of school, central office, and regional-based staff.

4. Guidance Services. Provide for organization of guidance services and CTE student records to insure timely program information and career planning.

III. STAFF

A. Certification. Every person employed in an administrative, supervisory, or teaching position shall be certified according to the State Board of Education bylaw provisions.

B. Staff Upgrading. Teachers are required to be involved in a systematic process of maintaining technical relevance and currency. Upgrading can be accomplished through activities such as business and industry situations, part-time employment, professional association membership, participation in seminars and workshops, and other personnel development activities.

C. Professional Organizations. Administrators, supervisors, and teachers are encouraged to belong to program-related professional organizations.

IV. FACILITIES AND EQUIPMENT

A. Replication of Work Environment. The facilities, equipment, and supplies used in the program represent the current technology and applications of the business or industry.

B. Equipment, Maintenance, and Replacement. Equipment is maintained, updated, replaced, and repaired as needed.

C. Facility and Equipment Accessibility. Facilities and equipment are accessible to all students.

D. Safety. Equipment safety devices are in place, in proper working order, and utilized. Emergency equipment is available, accessible, and well marked.

E. Square Footage Requirements. Professional trade association standards (i.e., National Automotive Technicians Education Foundation, Inc.), technical committee reviews, and/or other state or local standards are used to determine square footage requirements.

V. STUDENT RECRUITMENT AND ENROLLMENT

A. Equal Access. All CTE programs will reflect enrollments which do not discriminate on the basis of race, color, sex, age, national origin, religion, or disability in matters affecting access to programs.

B. Student Characteristics. Enrollment criteria and procedures facilitate the enrollment of a student population with characteristics which correlate closely with the demographic characteristics of the local school system population.

C. Program Information. Career awareness, exploratory activities, and unbiased program information are equally available to all identified groups preceding application to the program.

D. Career Objective. Priority is given to enrolling students who intend to seek employment or further education in a related occupation to the program.

E. Geographic. Career and technology education programs are accessible to students from all geographic sections of the local school district.

F. Non-Secondary Students. Career and technology education programs are accessible to adults and out-of-school youth for the purposes of obtaining initial employment or for upgrading or retraining workers.

G. Enrollment Criteria. Local enrollment criteria which are consistent with state standards exist and are utilized.

VI. CAREER DEVELOPMENT SYSTEM

Career development is a process that begins in childhood and continues throughout life. It is the combined responsibility of parents, the community at large, and education. The education system plays a vital role in the career development process. It is responsible for implementing a systematic process through which students can develop the skills and knowledge necessary to make appropriate and informed career decisions and prepare for lifelong learning. The system is integrated and collaborative, involving a partnership among all aspects of education and the community. The career development system implemented is one whose outcomes are measurable and competency-based. Eight process steps form the foundation of the career development system:

Process Step	Outcomes
Self Awareness	Identify personal interests, abilities, strengths and weaknesses, and their influence on career choice.
Career Awareness	Demonstrate locating, using and understanding career information.
	Demonstrate knowledge of a variety of career clusters.
Assessment	Describe possible career choices based on the results of formal and informal assessment.
Career Exploration	Describe potential outcomes of career decisions.
Planning/Decision	Develop a career plan.
Career Preparation	Demonstrate skills to enter and participate in education and training.
Job Seeking/Advancement	Demonstrate skills to prepare to seek, obtain, and maintain employment.
Self Assessment/ Redirection	Demonstrate skills to make career transitions.

While the process steps may take place at various grades or postsecondary levels, with specific and appropriate activities, every step is necessary to a comprehensive career development system. Achievement of competencies associated with the process steps will help ensure that students meet the goals of public education in Maryland, and are prepared for employment, or postsecondary education, or both.

VII. INSTRUCTION

A. Program Offerings. Programs offered in career and technology education are determined by assessment of employment opportunities and success in postsecondary programs.

B. Competency/Performance-Based Instruction. Program objectives and learning activities are based on a recent and valid task analysis utilizing DACUM (**D**eveloping **A** **Cur**riculu**M**), V-TECS (Vocational-Technical Consortium of States) or a similar approach. Student performance objectives are written and specified to students in advance of instruction. The instructional delivery system allows for individualization, different learning strategies and flexible learning time. A criterion-referenced evaluation system is used to measure each student's achievement and demonstrated competency. The program of instruction is developed and conducted in consultation with employers and other individuals or groups of individuals having skills in and substantive knowledge of the occupations or the occupational fields included in the instruction.

C. Program Completion. Completion of program is based on attainment of sufficient credits (4) or mastery of learner competencies to achieve the instructional objectives and/or occupational certification.

D. Community Resources. Community resources are used to enrich and enhance the quality of the career and technology education program. Cooperative linkages and articulation are encouraged with public and private agencies, institutions, organizations, and individuals.

E. Safety. Safety instruction is integrated throughout the teaching-learning process. Instruction includes industry-appropriate Environmental Protection Agency (EPA) and Occupational Safety and Health Agency (OSHA) requirements.

F. Leadership Development and Student Organizations. Students are provided with the opportunity to develop leadership, communication, and workplace basic skills through CTE student organizations and/or other appropriate activities. Student organizations in Maryland include Maryland DECA, Future Business Leaders of America (FBLA), Maryland FFA, Future Homemakers of America (FHA), Health Occupations Students of America (HOSA), and Vocational Industrial Clubs of America (VICA).

G. Work-based Learning. Work-based learning is designed to provide meaningful work experience as an integral part of the regular career and technology curricula. It requires a partnership involving the education system, business and industry, community agencies and organizations, and the family.

1. Cooperative Career and Technology Education

Cooperative career and technology education links the classroom with on-the-job experiences for students who are placed in temporary jobs related to their career choices. Cooperative education involves arrangements between the school and the job site through part-time employment. This instruction is planned, organized, and coordinated to assure that each component contributes to the student's education and employability. Cooperative education is provided in one of three major formats: capstone, integrated, and diversified.

- Capstone:

  The on-the-job component of the program is subsequent to the in-school, skill development component. Students are placed at training sites which have the potential to extend and refine competencies which are developed in the in-school component.

- Integrated:

  The on-the-job component of the program is entered after some in-school skill development, and the in-school skill development component is maintained concurrent with on-the-job experience. Students are placed at training sites which have potential to complement the in-school component.

- Diversified:

  The major portion of skill development is provided through on-the-job work experience. The in-school component is concurrent with the on-the-job component and is general in nature rather than directly related to the occupation or placement. The occupational placements are targeted employment opportunities for which an in-school career and technology program does not exist.

2. Apprenticeship

Apprenticeship is structured, on-the-job training combined with related instruction, leading to certification of the attainment of journey worker status in a skilled trade. An apprenticeship is an industry-driven program sponsored by joint employer and labor groups, employers and/or employer associations. An apprentice, as an employee, receives supervised, structured on-the-job training combined with related technical instruction (usually classroom study, often at a community college or other public postsecondary school) in a specific occupation. After completing an apprenticeship, the worker receives an apprenticeship completion certificate and is recognized as a qualified worker nationwide.

3. Internships

Internships are short term, paid or unpaid experiences that offer students a chance to work under the tutelage of employers and experience on-the-job training in a mentoring relationship.

H. All Aspects of the Industry

All aspects of an industry means experience in, and understanding of, different aspects of the industry the student is preparing to enter, including planning, management, finances, technical and production skills, underlying principles of technology, labor issues, and health and safety. Areas that should be covered include:

- Planning - various forms of ownership, including cooperatives and worker ownership, and the relationship of the industry to economic, political, and social context.

- Management - methods typically used to manage enterprises over time, methods for expanding and diversifying workers' tasks, and broadening worker involvement in decisions.

- Finance - ongoing accounting and financial decisions, and different methods for raising capital to start or expand enterprises.

- Technical and Production Skills - specific production techniques, alternative methods for organizing the production work, including methods which diversify and rotate workers' jobs.

- Underlying Principles of Technology - integrated study across the curriculum of the mathematical, scientific, social, and economic principles that underlie the technology.

- Labor Issues - worker rights and responsibilities, labor unions and labor history, and methods for expanding workers' roles.

- Community Issues - the impact of the enterprise and the industry on the community, and the community's impact on and involvement with the enterprise.

- Health, Safety, and Environmental Issues - in relation to both the workers and the larger community.

I. Tech Prep

Tech Prep is a planned sequential program of studies combining academic and technical courses beginning in high school and culminating in the completion of a:

- Two-year apprenticeship program
- Two-year certificate
- Two-year Associate degree
- Four-year degree

Its foundation is a strong partnership between the secondary and postsecondary schools and the business community. Some Tech Prep programs start in 9th grade (4 plus 2) while others begin in the 11th grade (2 plus 2). Many career and technology education programs are part of Tech Prep pathways. Tech Prep activities must be done in collaboration with business and industry, government, and education.

Tech Prep programs must have the following components:

- Advanced training of at least two years beyond high school

- Technical preparation in designated areas

- Sequential course of study in mathematics, science and communications related to the technical area

- Employment placement opportunities

- Articulation agreement

- Curriculum development
- Inservice teacher training
- Counselor training
- Equal access for special populations
- Preparatory services
- Career and technology education completer sequence

J. Blended Instruction/Integrated Instruction

Blended instruction is the integration of academic and occupational concepts to provide students with a more coherent program of study. Blended instruction allows every student to participate in challenging and purposeful studies which blend theory and application. Every student will demonstrate mastery of work-related and life skills required for a smooth transition into a globally-competitive, technologically-advanced, and service-oriented society.

K. Evaluation

1. Program Evaluation. Local education agencies will formally evaluate their programs using state performance standards and outcome measures.

2. Student Assessment. Each local education agency will assess each completer using either a local employability profile or the state profile. The local education agency will also participate in the statewide skill competency assessment system when developed and implemented.

3. Follow-up. Graduates and employer satisfaction with the career and technology education program is determined at least once every five years.

4. Program Committee. Program committee review of the instructional program occurs on a regular basis.

SPECIFIC PROGRAM SPECIFICATIONS

Specific program specifications contain descriptive information which pertains specifically to the program area. The information contained in the specific program specification includes:

1. Program Title
2. Program C.I.P. Code
3. Program Description
4. Learner Outcomes/Competencies
5. Facilities
6. Job Titles Addressed by Program
7. Labor Market Demand
8. Sequence of Courses Matrix
9. Instructional Program Data Sheet

The Division of Career Technology and Adult Learning will be developing specific program specifications which will contain the first six elements. The local education agency will document the labor market demand information, supply the sequence of courses matrix, and the instructional program data sheet.

1. **Program Title**

   The program title should be the one that the school system uses in the student course selection handbook. A resource for program titles is the Classification of Instructional Programs (C.I.P.) published by the National Center for Education Statistics.

2. **Program C.I.P. Code**

   List the C.I.P. code for the program.

3. **Program Description**

   The program description describes what the program covers and the general goal of the program. It should contain about three to five sentences and be written in paragraph format.

4. **Learner Outcomes/Competencies**

   This section describes the learner outcomes. Often the terms learner outcomes and competencies are used interchangeably. Learner outcomes or competency statements identify the competencies needed for on-the-job performance. Learner outcomes or competency statements should be stated

in behavioral terms and contain an action verb which indicates the measurable outcome. The outcomes stated can reflect knowledge, skills, and/or attitudes. These outcomes or competencies are usually grouped under major areas of responsibility.

5. **Facilities**

A statement concerning facilities and equipment should be included describing the environment in which the program is offered.

6. **Job Titles**

A list of job titles that graduates would be qualified for should be specified. Job titles may be obtained in a variety of ways and are listed in several references (i.e. Dictionary of Occupational Titles).

7. **Labor Market Demand**

The LEA will document labor market demand on a local, regional and/or state basis. Acceptable format for the labor market demand could include: a tech scan involving an employer committee; letters from employers documenting employment demand; and local, regional, labor market information, i.e. data fusion.

8. **Sequence of Courses Matrix**

The LEA will submit a matrix or chart indicating the sequence of courses, both academic and technical, in the program. The format of the matrix will be determined by the LEA. At a minimum, this will include the sequence from grade 9 through 12. For Tech Prep programs, two years of postsecondary courses should be included. The sequence of courses must reflect the current state and local high school graduation requirements.

The LEA must indicate what technical courses are required for CTE program completion. Underline each course and indicate the number of credits for each course in parentheses. Example: <u>Carpentry I</u> (2 credits).

9. **Instructional Program Data Sheet**

This sheet contains information about instructional time, sites, teachers, and class size.

DIRECTIONS FOR COMPLETING PROGRAM PROPOSAL PACKET

The following guidelines must be used when developing an instructional program proposal for secondary career and technology education programs. Consultation with appropriate advisory councils/program committees during proposal development or revision is recommended.

New Career and Technology Education Program Proposal

The local education agency should review their Local Application to determine that the proposed program is listed as a new program on Table I. If it does not appear, the LEA must amend the Local Application and send the revised pages to the appropriate CTE Coordinator. Contact the coordinator if assistance is needed.

Proposals submitted to DCTAL must include:

- Proposal Transmittal Form
- Proposal Cover Page
- Assurances Page
- Certification of Compliance with Program Specifications
- Modifications to Program Specifications (if applicable)
- Copy of Specific Program Specifications
- Labor Market Demand Information
- Sequence of Courses Matrix
- Instructional Program Data Sheet

New instructional program proposals should be received by the Division of Career Technology and Adult Learning at least six months before intended program implementation.

Submitting Proposals

Three copies (one with original signatures) of the proposal for new or amended programs should be sent to:

Chief, Program Support Services Branch
Division of Career Technology and Adult Learning
Maryland State Department of Education
200 West Baltimore Street
Baltimore, MD 21201

Proposal Transmittal Form

Provide the following:

I. This section is to be completed by the local education agency.

a. Program title. Insert instructional program title.
b. C.I.P. code. This code may be found in the reference entitled, Classification of Instructional Programs (C.I.P.) published by the National Center for Education Statistics.
c. Name of the local application coordinator.
d. Name and address of the submitting agency.
e. Name and address of the person who will be notified that MSDE/DCTAL has received the proposal, if different from the local application coordinator.

II. This section will be completed by DCTAL upon receipt of the proposal. A copy of the transmittal page will be returned to the submitting agency as DCTAL's acknowledgement that the proposal has been received.

Proposal Cover Page

Enter the following:

a. Agency name.
b. The complete agency's address.
c. Agency code.
d. Program title. The title should reflect the C.I.P. title.
e. Enter the C.I.P. Code number.
f. Starting date of proposed program.
g. Name, phone number and address of program director.
h. Level(s) at which the program will provide services.
i. Estimated total annual cost of program for the first year.
j. Section and/or table number(s) from Local Application.

k. Indicate whether the program is new, revised, or amended.

- New is the initial proposal from an agency.
- Revised means a complete replacement of an existing proposal on file with DCTAL.
- Amendment is a minor change in the original proposal submitted to DCTAL.

l. Original signature of local application coordinator.
m. Original signature of director of career and technology education.
n. DCTAL USE ONLY. This section will be completed by DCTAL.

Assurances Page

The program specifications assurances page contains seven statements dealing with the use of federal funds. This page must be signed by the local superintendent of schools.

Certification of Compliance with Program Specifications

This form indicates that the LEA agrees with the general and specific program specifications developed by the Division of Career Technology and Adult Learning. It includes a checklist of different components of the program. **All elements listed are required except for Tech Prep.** Any variance of these elements must be listed on the modifications form.

The first step is to review the general specifications and agree with them, or list any exceptions. The next step is to review the specific program specifications developed by the Division of Career Technology and Adult Learning and agree with them, or list any exceptions. If specific program specifications are not available for the Division of Career Technology and Adult Learning, the LEA will develop their own using the same format.

Work-Based Learning

This section contains options for work-based learning. These options include cooperative career and technology education, apprenticeship and internship. Check those that apply. See the general program specifications for a description of each option.

Special Populations

Next, describe how the program reflects services that will be provided to identified special populations which include the following: individuals with disabilities, educationally and economically disadvantaged individuals, individuals with limited English proficiency, individuals who participate in programs designed to eliminate sex bias, and individuals in correctional institutions.

Leadership Development and Student Organizations

Indicate what student organization will operate within the program, or other leadership development organizations or activities. Some Maryland student organizations include DECA, Future Business Leaders of America, FFA, Future Homemakers of America, Health Occupations Students of America, and Vocational Industrial Clubs of America.

All Aspects of the Industry or Business

Check if all aspects of the industry will be covered in the program. Consult the general program specifications for a description of all aspects of the industry.

Program Committee

Check that the program committee was involved in the proposal development process.

Tech Prep (optional)

Indicate whether the program is a Tech Prep program and meets the criteria listed in the general program specifications. For Tech Prep programs, the sequence of courses matrix must include academic and technical courses for the high school and community college curriculum.

Modifications to Program Specifications Form

If there are any modifications to the general or specific program specifications, list them on this form. Include the modification(s), school name(s) where the modification(s) will occur, and a brief justification of each modification.

Attachments

The following attachments must be submitted with the assurances and compliance pages:

a. Specific program specifications
b. Labor market demand information
c. Sequence of courses matrix
d. Instructional program data sheet

Instructional Program Data Sheet

Enter the following information:

a. Program Title.
b. Agency name and code.
c. Instructional program time by actual clock hours in each grade for which the program is proposed.
d. Total weeks per year.
e. Calculate the total hours required to complete the program and enter total. (N/A for Consumer and Homemaking)
f. Specific program sites, teachers, and class size information. The number of teachers should be calculated as full time equivalency (FTE) in career and technology education programs.

PROPOSAL TRANSMITTAL FORM

MARYLAND STATE DEPARTMENT OF EDUCATION
DIVISION OF CAREER TECHNOLOGY AND ADULT LEARNING
200 West Baltimore Street
Baltimore, Maryland 21201

This form will serve as an acknowledgement of receipt of the proposal by DCTAL. A copy of this page will be returned to the eligible recipient upon receipt of this proposal.

SECTION I - TO BE COMPLETED BY ELIGIBLE RECIPIENT

CTE ACTIVITY NUMBER (Grants Only): _____

PROGRAM / PROJECT TITLE: _____

CIP CODE (if applicable): _____

LOCAL APPLICATION COORDINATOR: _____

SUBMITTING AGENCY (Name/Address): _____

_____

_____

Name and Address (Where receipt of proposal notice is to be sent if different from local application coordinator.):

_____

_____

_____

_____

SECTION II - TO BE COMPLETED BY MDSE/DCTAL

DATE RECEIVED BY PROGRAM SUPPORT SERVICES BRANCH: _____

CONTROL NUMBER: _____ FISCAL YEAR: ___ CTE ACTIVITY NUMBER: _____

QUESTIONS REGARDING THE STATUS OF THIS PROPOSAL SHOULD BE DIRECTED TO

_____, CTE COORDINATOR,

TELEPHONE NUMBER: _____

_____

Chief, Program Support Services Branch, DCTAL

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PROPOSAL COVER PAGE

DIVISION OF CAREER TECHNOLOGY AND ADULT LEARNING
MARYLAND STATE DEPARTMENT OF EDUCATION
200 West Baltimore Street
Baltimore, Maryland 21201

This agreement is between the Division of Career Technology and Adult Learning, Maryland State Department of Education and the following eligible recipient.

Institution/Agency Name: _____

Institution/Agency Address: _____

_____ Institution/Agency Code: _____

Program/Project Title: _____

_____ CIP Code: _____

Starting Date: _____ Ending Date: _____

Name of Program/Project Director: _____ Phone: _____

Address: _____

Level(s) (check appropriate) ___ Secondary ___ Postsecondary ___ Adult ___ Other (specify) _____

Estimated Annual Cost of Program/Project	Federal (P.L. 101-392)	$ _____
(Should agree with Proposed Budget)	State Categorical	$ _____
	State/Local	$ _____
	Other	$ _____
	TOTAL	$ _____

Local Application Reference (If applicable) _____

Type of Proposal/Project (check one) ____ New ____ Revised ___ Amendment

Signature of Local Application Coordinator _____

Signature of Career & Technology Administrator/Occupational Dean _____

DCTAL USE ONLY

FUNDING SOURCE (check)

Title II - BASIC GRANT

Part A - State Programs
- ___ Professional Development
- ___ Curriculum Development
- ___ Performance Standards

Part B - Other State Administered Programs
- ___ Single Parents, Displaced Homemakers, Single Pregnant Women
- ___ Sex Equity
- ___ Corrections Education

Part C - Secondary, Postsecondary & Adult Career Technology Ed. Programs
- ___ Secondary
- ___ Postsecondary
- ___ Adult Education

Title III - SPECIAL PROGRAMS
- ___ Part A - Community -Based Organizations
- ___ Part B - Consumer and Homemaker
- ___ Part E - Tech Prep

Other
- ___ State Categorical
- ___ Other (Specify) _____

APPROVED FUNDS - Federal _____ Control No. _____
State Categorical _____ Source of Funds FY _____
TOTAL AMOUNT _____ Approved for FY _____
CIP/CTE Activity No. _____

_____ _____

Signature, Assistant State Superintendent, Career Technology & Adult Learning Date

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ASSURANCES

The agency chief executive officer certifies that:

1. A copy of this approved program/project will be maintained on file at the agency's central office and at the location for which this contract was approved. The recipient agrees to provide copies of this proposal to school principals, program instructors, and project partners.

2. The agency's program administrator(s) and other persons, including instructors, concerned with the operation of this program/project are aware of the program/project requirements as described in this proposal.

3. The program/project will comply with Title VI and VII of the Civil Rights Act of 1964 (P.L. 88-352), Section 902 of Title IX of the Education Amendments of 1972, and Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794). The recipient does not discriminate on the basis of race, national origin, color, sex or handicapping conditions in educational programming or employment practices. Further, the agency agrees to comply with guidelines established by the U.S. Department of Education, Office of Civil Rights, (34 C.F.R. Part 100).

4. All funds attributable to this program/project will be expended and accounted for according to state and federal laws, rules and regulations, and the administrative provisions of the Maryland State Plan for Career and Technology Education. Access to all records and documents related to these funds is granted.

5. The recipient agrees to establish and maintain fiscal control and fund accounting procedures, as set forth in EDGAR 34 C.F.R. parts 76 & 80 and COMAR in order to ensure proper disbursement of and accounting for, federal and state categorical funds for the program/project purpose. Funds in the amount stated on the grant award will be expended in according with the funding source.

6. The recipient agrees to repay any funds which have been finally determined through the federal and state audit resolution process to have been misspent, misapplied, or not properly accounted for otherwise.

7. For program proposals, the recipient agrees to adhere to the "Certification of Compliance with Program Specifications."

_____ _____

Signature, Agency Chief Executive Officer Date

_____

Institution/Agency Name

Note: This page must accompany the Proposal Transmittal Form and Proposal Cover Page.

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CERTIFICATION OF COMPLIANCE WITH PROGRAM SPECIFICATIONS

Check One
___ New Program
___ Amended Proposal

_____
Agency Name

_____
Name/Title of Program

The program will include the following **required** elements, unless listed on the Modifications to the Program Specifications sheet.

For each item below, check or complete the appropriate options.

A. General and Specific Program Specifications

The local education agency agrees to: (See instructions)

_____ Follow the general program specifications.
_____ Follow the specific program specifications.
_____ Follow the specifications with the attached modifications. List modifications, identify school name(s), and provide justification.

B. Work-Based Learning

A work-based learning component will be included for all students who have the competencies necessary to enter into this phase of the program. This Work-based component will follow the guidelines as described in the general program specifications.

1. Cooperative Career and Technology Education
   _____ Integrated
   _____ Diversified
   _____ Capstone

2. _____ Apprenticeship
3. _____ Internship
4. _____ Other (specify) _____

C. Services for Special Populations

Describe how support services will be provided for special population students who are enrolled in the program.

_____
_____
_____
_____
_____
_____
_____
_____

D. Leadership Development and Student Organizations

Students will develop leadership, communication and workplace basic skills through participation in:

_____ DECA
_____ FBLA
_____ FFA
_____ FHA
_____ HOSA
_____ VICA
_____ OTHER (specify)
_____

E. All Aspects of the Industry/Business

_____ All aspects of the industry/business as described in the general program specifications are covered.

F. Program Committee

_____ A program committee has been established and used for input into the program design.

Optional

G. Tech Prep Program

_____ This program meets the criteria in the general program specifications which describes it as a Tech Prep Program. (Submit copies of the academic and technical course sequences for both the secondary and postsecondary programs)

Attachments

Attachments to this proposal must include specific program specifications, labor market information, a sequence of courses matrix, and the instructional program data sheet.

SPECIFIC PROGRAM SPECIFICATIONS FOR CARPENTRY

C.I.P. # 46.0201-4

PROGRAM DESCRIPTION: This instructional program prepares individuals to lay out, fabricate, erect, install, and repair wooden structures and fixtures using hand and power tools. The program includes instruction in common systems of framing, construction materials, estimating, and blueprint reading.

LEARNER OUTCOMES/COMPETENCIES:

A. Apply Safety Practices

1. Comply with shop and equipment safety rules
2. Apply basic emergency first aid techniques
3. Inspect work places for safe working environment
4. Demonstrate use of fire extinguisher
5. Correct safety hazards
6. Participate in safety training programs
7. Inspect climbing equipment for safety

B. Install Rough Framing

1. Square up and level foundation
2. Install lally posts
3. Install steel beams
4. Install sill plates
5. Install floor joists
6. Frame floor openings
7. Install cross-bridging
8. Install fasteners (joist hangers)
9. Install ledgers
10. Install plyscore
11. Frame exterior walls
12. Frame interior walls
13. Install rough-in access panels
14. Construct plywood box beams
15. Rough-in for pocket doors

16. Align walls
17. Brace walls
18. Construct post and beam frames
19. Install ceiling joists
20. Install nailing backing for hanging fixtures and cabinets
21. Set metal door frames for masonry construction
22. Set metal window frames for masonry construction
23. Frame cleated stair stringers
24. Frame built-up stringers

C. Install Roof Components

1. Set roof trusses
2. Cut common rafters
3. Install ridge boards
4. Install common rafters
5. Install gable studs
6. Install rafters with special cuts
7. Install collar beams
8. Install overhang purlins/lookouts
9. Install rafter support purlins
10. Frame roof openings
11. Frame dormers
12. Frame roof crickets (saddles)
13. Frame snub gables
14. Construct intersecting gable roofs
15. Install access panels
16. Install roof vents
17. Install sky lights
18. Install wind bracing
19. Install catwalks
20. Install roof sheathing
21. Install roof felts
22. Prepare for framing inspector

D. Perform Daily Routines

1. Plan sequence of work operations
2. Report problems to supervisor
3. Follow tool crib procedures
4. Report equipment failure
5. Appraise job status
6. Complete time cards

E. Install Exterior Finishes

1. Construct box cornice

2. Construct rake cornice
3. Install wood jamb window units
4. Install exterior door jambs
5. Hang exterior doors
6. Case exterior opening
7. Install corner boards for wood siding
8. Install wood fascia
9. Install wood soffitt
10. Install prefabricated columns
11. Install garage doors
12. Install wood louvers
13. Install drip caps
14. Install siding
15. Install exterior shutters
16. Install prefabricated storm doors
17. Install prefabricated storm windows

F. Install Interior Finishes

1. Install underlayment over sub-floors
2. Install parquet flooring
3. Install plank flooring
4. Install wall paneling
5. Install interior door jambs
6. Hang interior doors
7. Install prefabricated stairs
8. Install disappearing stair unit
9. Construct open riser stairs
10. Construct box stairs
11. Install wood newel post, balusters and railings nosing
12. Install interior trim
13. Install wall cabinets
14. Install base cabinets
15. Install counter tops
16. Install vanities
17. Install vanity top
18. Caulk
19. Construct built-in cabinets
20. Install thresholds
21. Install weather stripping
22. Install access panels
23. Install finish hardware
24. Install hand rails
25. Set appliances

G. Related Workplace Skills

1. Identify career information
2. Identify job requirements
3. Locate resources for finding employment
4. Prepare a resume
5. Prepare for job interview
6. Write job application letter
7. Complete job application letter
8. Communicate orally with others
9. Follow written directions
10. Assess entrepreneurship skills
11. Solve job-related problems
12. Demonstrate safety and health rules/procedures
13. Identify the value of maintaining regular attendance on the job
14. Resolve conflicts
15. Demonstrate team work
16. Display a positive attitude

H. Related Academic Skills

1. Solve basic math problems related to carpentry applications
2. Solve for square foot and cubic foot measurement
3. Solve for board foot measurement
4. Solve for linear foot measurement
5. Read, interpret and apply metric conversion
6. Solve problems for volume, weight, area, circumference and perimeter measurements for rectangles, squares, and cylinders
7. Measure tolerance(s) on horizontal and vertical surfaces using millimeters, centimeters, feet and inches
8. Add, subtract, multiply and divide using fractions, decimals, and whole numbers
9. Determine the correct purchase price, to include sales tax for a materials list containing a minimum of six items
10. Demonstrate an understanding of federal, state and local taxes and their computation
11. Read an architect's scale
12. Identify architectural evaluations and schedules
13. Identify lines and blueprint symbols
14. Interpret blueprints and specifications
15. Understand molecular action as a result of temperature extremes, chemical reaction, and moisture content
16. Draw conclusions or make inferences from data
17. Identify health related problems which may result from exposure to work related chemicals and hazardous materials, and know the proper precautions required for handling such materials
18. Understand pressure measurement in terms of P.S.I., inches of mercury and K.P.A.

I. Entrepreneurship

1. Define entrepreneurship.
2. Describe the importance of entrepreneurship to the American economy.
3. List the advantages and disadvantages of business ownership.
4. Identify the risks involved in ownership in a business
5. Identify the necessary personal characteristics of a successful entrepreneur
6. Identify the business skills needed to operate a small business efficiently and effectively

FACILITIES: The facilities, equipment, and supplies used in the program are representative of the current technology and applications of business and industry.

PRIMARY OCCUPATIONS ADDRESSED BY PROGRAM:
Rough Carpenter - DOT 860.381-022
Finish Carpenter - DOT 860.381-042

Modifications to Program Specifications

The following are modifications to the general and specific program specifications of the Maryland State Department of Education, Division of Career Technology and Adult Learning. Include the modification(s), school name(s) where the modification(s) will occur, and a brief justification of each modification.

General Program Specifications:

Specific Program Specifications:

MSDE 0304 Rev. 12/94

Example of:
LABOR MARKET DEMAND

Projected Skilled Worker Needs in Construction

TRADE	1990	1991	1992	1993	1994	1995	1996	Annual Rate of Growth[2]	1990-1996[1] Net Change	1990-1996[1] Net % Change
Carpenters	22141	22701	23275	23863	24466	25085	25719	2.53%	3578	16.16%
Drywall Installers	*	*	*	*	*	*	*	*	*	*
Tapers	*	*	*	*	*	*	*	*	*	*
Electricians	13040	13440	13852	14277	14715	15166	15631	3.07	2591	19.87
Brick Masons	6107	6375	6656	6948	7254	7572	7905	4.40	1798	29.45
Stone Masons	235	238	242	245	248	252	255	1.38	20	8.54
Painters and Paperhangers	9476	9667	9863	10062	10265	10472	10684	2.02	1208	12.74
Plumbers, Pipefitters, Steamfitters	10176	10386	10600	10819	11042	11270	11503	2.06	1327	13.04
Roofers	1918	1967	2017	2068	2120	2174	2229	2.54	311	16.22
Heating, A/C, Refrigeration Mechanic	*	*	*	*	*	*	*	*	*	*
Helpers-	*	*	*	*	*	*	*	*	*	*
Brick Stone Masons, & Hard Tiles	*	*	*	*	*	*	*	*	*	*
Carpenters & Related	*	*	*	*	*	*	*	*	*	*
Electricians & Powerline Installers	*	*	*	*	*	*	*	*	*	*
Painters, Paperhangers, Plast., Stucco	*	*	*	*	*	*	*	*	*	*
Plumbers, Pipefitters, & Steamfitters	*	*	*	*	*	*	*	*	*	*
Roofers	*	*	*	*	*	*	*	*	*	*
Average Rate of Growth Across Trades:								**2.57%**		
[1]Data Extrapolated from Projections for years 1980, 1990 [2]Compounded Annually *Not Available										

* While the state-wide demand is low, a survey of local employers shows the annual growth rate in this region is projected to be more than 10%.

From An Analysis of America's Construction Industry Work Force & Occupational Projections 1990-1996, Homebuilders Institute. January 1991.

Example of:

SEQUENCE OF COURSES MATRIX

OCCUPATIONAL TECHNOLOGY COURSE OF STUDY IN CARPENTRY

The duties of carpenters vary. A carpenter employed by a general building contractor may perform many tasks, such as framing walls and partitions, putting in doors and windows, and installing paneling and tile ceilings. **This program intends to prepare people to work as Apprentice Carpenters or Carpenters.**

GRADE 9	GRADE 10	GRADE 11	GRADE 12
1 ENGLISH	1 ENGLISH	1 ENGLISH	1 ENGLISH
2 CIVICS	2 WORLD HISTORY	2 U.S. HISTORY	2 RECORDKEEPING or MARKETING 1 or ACCOUNTING 1
3 MATH (choose one) Algebra II or I Algebra IA Math I	3 MATH (choose one) Geometry or Discovering Geometry Applied Geometry Algebra II or I Algebra IB Algebra IA Applied Algebra	3 MATH (choose one) Geometry or Discovering Geometry Applied Geometry Algebra II or I Algebra IB Business Math Consumer Math	3-7* **CARPENTRY II** (2) or III and two (2) ELECTIVES or COOPERATIVE ED/ APPRENTICESHIP and one - (1) ELECTIVE
4 BIOLOGY	4 SCIENCE (choose one) Chemistry Geo. Science Envir. Science I Applied Physics Chem Com Physical Science Earth Science	4 SCIENCE (choose one) Chemistry Geo. Science Envir. Science II or I Applied Physics Chem Com Physical Science Earth Science	
5 PHYSICAL ED / HEALTH	5-6* **CARPENTRY I** (2)	5-7 * **CARPENTRY I** (2) and one (1) ELECTIVE * or **CARPENTRY II** (2)	
6 FINE ARTS			
7 FUNDAMENTALS OF TECHNOLOGY ED. or EXPLORING TECHNOLOGY I or ELECTIVE	7 ELECTIVE		

***Indicates Career and Technology Program Completer Requirements for Carpentry**

INSTRUCTIONAL PROGRAM DATA SHEET
(Secondary Only)

Program Title: _____

Agency Name: _____ Agency Code: _____

INSTRUCTIONAL PROGRAM TIME BY GRADE(S)

		6	7	8	9	10	11	12	Ungr.	TOTAL
A	Clock hours per week of occupational content									
B	Total weeks per year									
C	Total clock hours of occupational content per year (A X B = C)									

Total number of hours for program completion: _____

CAREER AND TECHNOLOGY EDUCATION PROGRAM SITES, TEACHERS, AND CLASS SIZES

School Name(s)/Sites	School Number	Number (FTE) of Teachers	Maximum No. of Students per Class

GLOSSARY

All aspects of the industry

All aspects of the industry means experience in, and understanding of, different aspects of the industry the student is preparing to enter. Instruction should cover planning, management, finances, technical and production skills, underlying principles of technology, labor issues, and health and safety.

All students

The term "all students" means both male and female students from a broad range of backgrounds and circumstances, including disadvantaged students, students with diverse racial ethnic, or cultural backgrounds, American Indians, Alaska Natives, Native Hawaiians, students with disabilities, students with limited-English proficiency, migrant children, school dropouts, and academically talented students.

Blended instruction

Blended instruction is the integration of academic and occupational concepts to provide students with a more coherent program of study. Blended instruction allows every student to participate in challenging and purposeful studies which blend theory and application. Every student will demonstrate mastery of work-related and life skills required for a smooth transition into a globally-competitive, technologically-advanced, and service-oriented society.

Career and technology education

Career and technology education means an organized educational program offering a sequence of courses which are directly related to the preparation of individuals for entry into careers. Such programs include competency-based applied learning which contributes to an individual's academic knowledge, higher-order reasoning, and problem solving skills, work attitudes, general employability skills, and the occupational-specific skills necessary for economic independence as a productive and contributing member of society.

Competency/performance-based instruction

A methodology of instruction that: 1) identifies the competencies needed for on-the-job performance; 2) informs students and teachers of precise and detailed learning objectives required to complete these competencies; 3) emphasizes high performance standards in testing, course requirements; and 4) facilitates learning by letting each student master the tasks prior to advancing to another. Also known as performance-based instruction.

Cooperative career and technology education

Links the classroom with on-the-job experience for students. Cooperative career and technology education involves arrangements between the school and the job site. Instruction is planned, organized, and coordinated to assure that each component contributes to the student's education and employability.

Program completer

A student who completes a minimum of four occupational credits in a planned sequential program of study that integrates academic, technical, and workplace readiness skills.

School-to-Work Opportunities

A system intended to provide all students with opportunities to prepare for high skills, high wage careers and further education by utilizing workplaces as active learning environments in combination with learning in school and by promoting life-long learning. "Career Connections" is Maryland's broad-based, statewide school-to-work opportunities system. There are four key organizing principles for Career Connections: universal access; defined academic and occupational skill competencies; integrated work-based and school-based learning; and active adult and employer participation.

Sequence of courses

Indicates the sequence of courses, both academic and technical, in the program. At a minimum, this will include the sequence from grades 9 through 12. For Tech Prep programs, two years of postsecondary courses should be included. The sequence of courses must reflect the current state and local high school graduation requirements.

Skill standard

The technical skills, academic concepts, and workplace behaviors, with their respective performance criteria, required for acceptable job performance.

Special Populations

Special populations include the following: individuals with disabilities, educationally and economically disadvantaged individuals, individuals with limited English proficiency, individuals who participate in programs designed to eliminate sex bias, and individuals in correctional institutions.

Tech Prep

Tech prep is a combined secondary and postsecondary program which leads to an associate degree, two-year certificate, or completion of an apprenticeship program. Programs offer a sequence of courses and experiences to provide high school graduates with a more technically-oriented background enabling them to make a successful transition from school to postsecondary technical education, to work or both.

Vocational student organizations

Organizations for individuals enrolled in career and technology programs that engage students in activities as an integral part of the instructional program. Such organizations may have state and national units which aggregate the work and purposes of instruction in career and technology education at the local level.

V-TECS (Vocational-Technical Education Consortium of States)

A group of states and the military services, who share resources to develop industry-based occupational analysis documents for use in curriculum development. Products include duties and tasks by occupation, performance objectives, standards of performance, test item banks, and the ability to develop unduplicated lists of academic skills for each occupational area.

Work-based learning

Work-based learning is designed to provide meaningful work experience as an integral part of the regular career and technology education curricula. It requires a partnership involving the education system, business and industry, community agencies and organizations, and the family.

Appendix

MSDE Template Instructions

General Information

This template is designed for use with WordPerfect for Windows, version 6.0/6.0a only. The template requires the use of a laser printer and has been designed for use with several popular printers, which include:

Hewlett Packard LaserJet 4/4+
Hewlett Packard LaserJet III/IIIp
Hewlett Packard LaserJet Series II

The template may also be compatible with other printer types which "emulate" any of the above printers. Use of any other printer may cause unpredictable results.

Installation Instructions

1. To install the template, copy the file named "MSDE.WPT" to the WordPerfect for Windows template directory. In most cases, this directory will be named C:\WPWIN60\TEMPLATE on your hard drive. Use the Windows File manager or the DOS "COPY" command to copy the file. Network/LAN users may have to have their network administrator install the template if users are denied access to this directory.

2. By default, WordPerfect 6.0/6.0a enables a feature(Table Gridlines) in which the cells in a table are outlined in faint dotted lines. It is necessary to turn this feature off so the template will appear on the screen as it does on paper. Follow the steps below to disable the Table Gridlines.

    A. Select **File** from the top menu.
    B. Select **Preferences** from the FILE menu. A box titled Preferences will appear with 12 icons inside.
    C. Double-click the mouse on the **Display** icon. A box titled Display Preferences will appear. Locate the **Table Gridlines** option, and uncheck the box for this option with the mouse.
    D. Click the OK button with the mouse to close the Display Preferences box and then click on the Close button to close the Preferences box.

Retrieving the Template

To use the template, follow the steps below:

1. Select **File** from the top menu, then **Template** from the pull-down menu. A box titled Templates will appear.

2. Use the scroll bar to locate the template named **MSDE** or type MSDE. Click the mouse on the OK button or press the enter key. The template should now be loaded.

Using the Template

Once retrieved, the user will see the form on the screen. The cursor is automatically placed at the first data entry field. The following points explain the operation of the template:

- To move to the next field, use the TAB key. Similarly, to move to the previous field, press SHIFT-TAB.

- The fields **DO NOT** wrap automatically to the next line. When typing a sentence and you reach the end of the line, use the TAB key to move to the next line. **Think as though you are using a typewriter**.

- Use the mouse and the scroll bars on the right of the screen to move the document forward or backward so you can see what you are typing and where you are in your document.

- If an entry into a field is too large, the excess portion of that entry will be hidden from view. Shorten or abbreviate the entry as needed to ensure it is entirely visible. In extreme cases, you may need to reduce the font size for some entries to fit.

- When you reach the end of the template, save your file as you normally would Print the form as usual.

- This template is constructed using a WordPerfect table. **DO NOT** change any of the column widths as this will change the pagination. If the template is accidentally altered, simply re-retrieve the template using the steps outlined above and start over.